AV
SLIC #499

soil PACIFIC Inc.

Geotechnical and Environmental Services

February 08, 1997
Project No. H-1175-97

QUALITY CONTROL
LOS ANGELES REGION
97 MAR 12 AM 10:58

Corsair LLC
9171 Wilshire Blvd., Suite 600
Beverly Hills California

ATTENTION: Mr. M. Gabay

SUBJECT: LIMITED GROUNDWATER EVALUATION - AT SITE CONDITION for Commercial Property (Former Gasoline Fueling Station) Located at 4945 York Blvd., Highland Park Area, City of Los Angeles, Los Angeles County, California 90042

REFERENCE: Report of Preliminary Site Assessment; Target Station #940, ~~4945~~ 4954 York Blvd., Highland Park, California 90042; Randell S. Weidner, CEG, Consulting Engineering & Environmental Geologist; PN: 92-17; June 26, 1992.

Dear Mr. Gabay:

Pursuant to your request and authorization we are pleased to submit our Limited Groundwater Condition Evaluation report for the property located at 4945 York Blvd., Highland Park, City of Los Angeles, California.

Our evaluation of the existing groundwater conditions at the subject site was completed in December 1996, and consisted of site reconnaissance, review of reports and records provided by the client, groundwater sampling of existing wells where possible, analytical testing of these samples, and preparation of the draft summery report containing our preliminary findings, conclusions, and recommendations as deemed necessary.

This draft summery report contains brief site description, findings during filed work and copy of analytical testing results. Should you have any questions or require additional information pertaining to the contents of this report letter, please do not hesitate to contact us. Soil Pacific, Inc., appreciates the opportunity to be of services to Corsair LLC.

Respectfully Submitted;

Soil Pacific, Inc.

Dr. Yones Kabir, Principal
Registered Environmental Assessor

DR. YONES KABIR
No. 02290
Expires: 6-30-97

Jonathan L. Rossi
Certified Engineering Geologist

JONATHAN L. ROSSI
No. 1460

675 N. Eckhoff, Suite A, Orange, CA 92668 ○ (714) 879-1203 ○ Fax (714) 879-4812

LIMITED GROUNDWATER EVALUATION for Commercial Property
(Former Gasoline Fueling Station) Located at 4945 York Blvd., Highland Park Area,
City of Los Angeles, Los Angeles County, California 90042

INTRODUCTION -

Soil Pacific, Inc. (SP) was commissioned in December 1996, to conduct a Limited Groundwater Evaluation of the subject property. The purpose of this investigation was to determine existing groundwater conditions at the subject site with respect to existing petroleum hydrocarbon contamination. The subject property consists of an older gas gasoline station with two pump islands, station building, a waste oil tank, and four underground fuel storage tanks in a cluster on the southeast side of the station building. Previous work by others at the subject site resulted in the drilling of twelve hollow stem auger borings, and earlier seven 4" PVC monitoring wells penetrating the groundwater surface. The referenced report indicated significant hydrocarbon fuel contaminants were present in all of the reported soil borings, and in two of the existing six groundwater monitoring wells. Well no. A, & B were reported in 1992 to contained 8.04", and 14.04" of hydrocarbon product, respectively. Well B-4 was apparently installed by others after the issue of the referenced report in 1992.

Groundwater samples were collected from four of the six monitoring wells using EPA and DOHS protocol. A single hydropunch groundwater sample was collected from the east side of the UST cluster. Groundwater samples were transported to a EnviroChem Labs, Pomona, a State Certified Hazardous Waste Analytical Laboratory for analysis. Our findings, conclusions, and recommendations are presented in this letter report. A site plan provided to us in the Weidner report by the client was used as a base map for plotting our data.

SITE DESCRIPTION -

The subject site is located in the south east central portion of the Highland Park area of the City of Los Angeles, Los Angeles County, California. Numerous commercial and residential buildings exist in the area. The subject property is situated at 4945 York Blvd., a major east-west commercial thoroughfare in Highland Park. The rectangular site is situated on the southwest corner of York Blvd. and Avenue 50. The site is developed as an older gasoline fueling station. A one story station building occupies the southwestern portion of the site, and two pump islands with concrete aprons occupy the northern and eastern portion of the property. The site contains four fuel USTs (2-5000 gallon {gasoline & diesel},2-8000 gallon gasoline), located in the southern portion of the site (between the station building & 50th. Ave.). A small waste oil tank is located to the rear of the station building at the southwest corner. Seven groundwater monitoring wells are located on the east one-half of the property. The site is entered from York Blvd. on the north, and from 50th. Avenue on the east. Surrounding properties consisted of industrial and residential single family structures. The site slopes gently to the south, but appears to be essentially level. Drainage is by sheet flow north and east, toward York Blvd. and 50th. Avenue. Underground water, gas, and overhead power are present on the site.

HYDROGEOLOGY -

The site is located a small alluviated canyon plain located within a series of low rolling hills between the San Rafael Hills directly to the north, and the Repetto Hills directly to the south. The San Rafael Hills and the Repetto Hills are located at the northeastern edge of the Los Angeles Basin. The York Blvd. Fault, a possible western extension of the Raymond Hill Fault, reportedly passes beneath the subject site, or close to the subject site (CDMG SpRpt. 101, Plate 1; 1970; D.L. Lamar). The York Blvd. Fault essentially parallels York Blvd. Alluvial thickness at the subject site is estimated to be less than 100 feet. Bedrock underlying the subject site reportedly consists of Pliocene Fernando formation marine and non-marine conglomerate to the south of the York Blvd. Fault, and Middle Miocene Topanga Formation marine conglomerate to the north of the fault. The shallow canyon basin contains both an unconfined to simiconfined alluvial aquifer, and a simiconfined secondary fracture bedrock aquifer. Groundwater is reportedly very shallow @ -3' (1992) in LACFCD well 3987H, located approximately 2000 feet to the west of the site. At the site groundwater was measured between -7.0 and -9.0 feet below grade.

SUMMARY OF FINDINGS -

Review of Provided Reports - ?

A review of the referenced report furnished by the client provided limited subsurface information from twelve hollow stem auger borings drilled primarily on the east one half of the subject site. The report addresses only the potential hydrocarbon contaminants which may be present in the vadose (soil unsaturated) zone at and around the existing UST tank cluster (4 tanks), and around the two dispenser pump islands. The report does not address groundwater conditions at the site, with the exception of an examination of the previously existing six groundwater monitoring wells, and measurement of any free hydrocarbon product which may be present. All of these structures, including the six wells by others, lie in the eastern one half of the property. One boring was also placed on the south side of the station building, to the northwest of the existing waste oil tank. Soil samples were collected from five foot intervals in each of the borings. Borings were drilled up to -21.0 ft. below grade. Groundwater was detected in some of the borings: B-1 @ -15.0',TD=16'; B-2 @ -20.0',TD=21'; B-3 None,TD=21'; B-4 None,TD=21'; B-5 None,TD=21'; B-6 Hydrocarbon Product @ 12',TD=21'; B-7 Hydrocarbon Product @ 10', TD=13'; B-8 Hydrocarbon Product @ 12',TD=13'; B-9 Hydrocarbon Product @ 11',TD=16'; B-10 None,TD=18'; B-11 None,TD=13'; B-12 None,TD=13'. The report also presents in Table I a list of well measurements and product thicknesses. Well #A, and #B reportedly contained 0.67' and 1.17'product thickness, respectively. Analysis of the soil samples collected indicated high levels of hydrocarbon contaminants between -10.0 ft. and -15.0 ft. below grade to the east of the tank cluster, and at the two pump islands. The information presented in the report indicates that one or more vadose plume of gasoline and/or diesel hydrocarbon contaminants are present at and around the tank cluster and the two pump islands present on the subject property. Additionally, some of the borings drilled during the Weidner study encountered free hydrocarbon product, and two of the existing groundwater wells also encountered significant free hydrocarbon product. Considering this it is apparent that a hydrocarbon free product plume with associated disolved product plume is present on the groundwater surface beneath the tank cluster, and extending to the northeast, toward the 50th. Avenue pump island. The reported depth of the free product plume as encountered in the borings is approximately 12 feet below grade. The apparent direction of groundwater product plume migration, and groundwater flow direction, based on the boring and well data is to the northeast. The suspected groundwater gradient is also to the northeast. This was not presented in the Weidner report, but is interpreted here from the information presented. There was no well head or boring elevation survey (licensed surveyor) presented in the report from which to calculate groundwater gradient and flow.

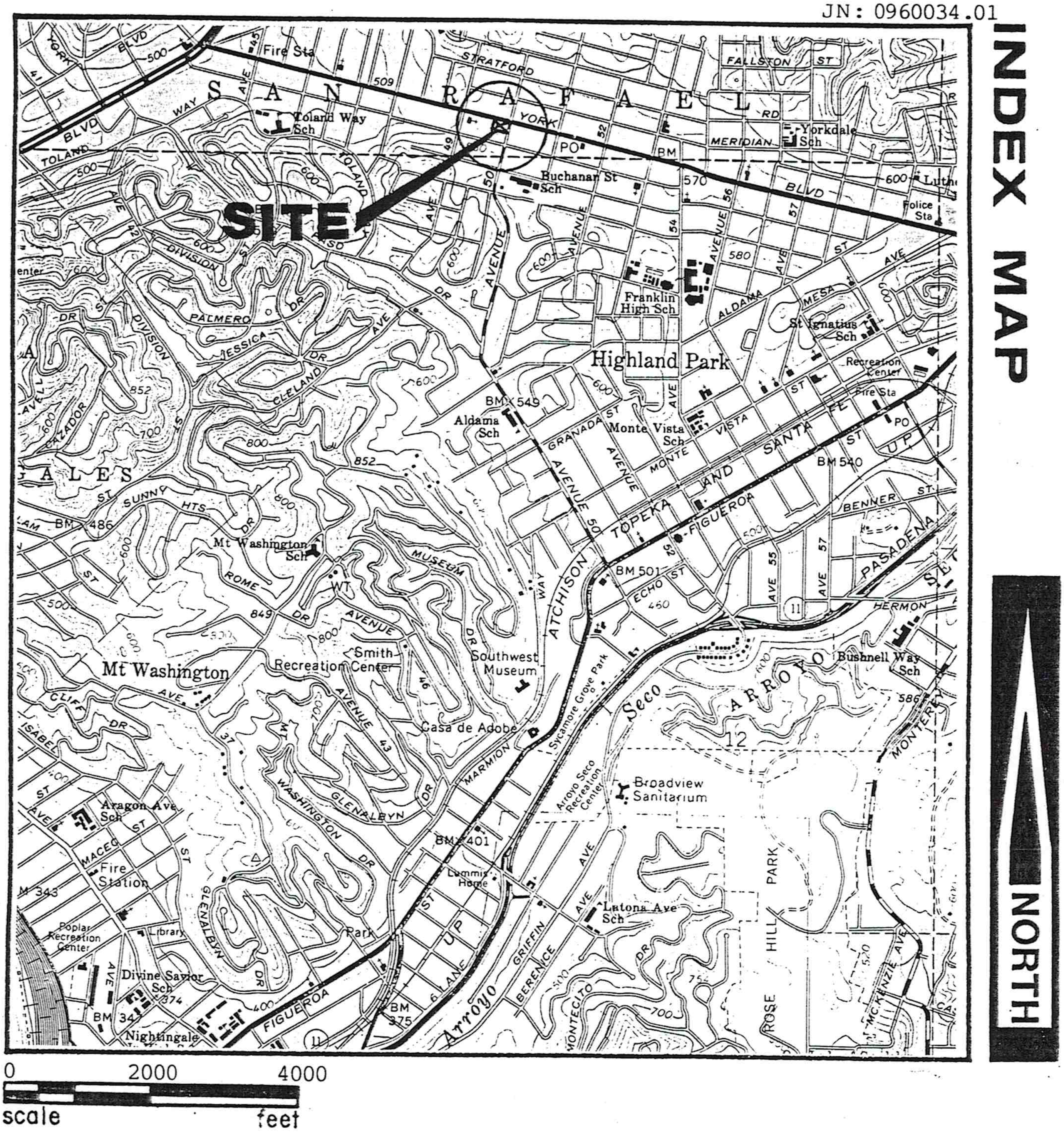
Subsurface Materials -

The boring logs presented in the referenced report indicated a typical clay rich alluvial soil is present from the subgrade elevation (just beneath asphalt paving) to the depths explored. Soil types are classified as massive to thickly layered olive grey {0 - 10 ft.}, to yellow brown {10 - 21 ft.} clayey sands (SC) to sandy clays (CL). Soils were sampled at five foot intervals. Groundwater was encountered in six of the twelve exploratory borings drilled on the site during this study (1992).

Petroleum Hydrocarbon Soil Contamination -

Our groundwater evaluation work does not include subsurface exploration for the previously identified vadose zone hydrocarbon soil contamination. Information discussed above indicated the presence of one or more vadose contaminant plumes. However, the limits of soil contaminant plume are not defined. The thickness of the reported vadose plume varies, but appears to be limited to a maximum of -20+-ft. below grade. Hydrocarbon concentrations of up to 4600 ppm (TPH 418.1) (B-1-10). Additional subsurface exploration is required in order to determine vadose plume limits.

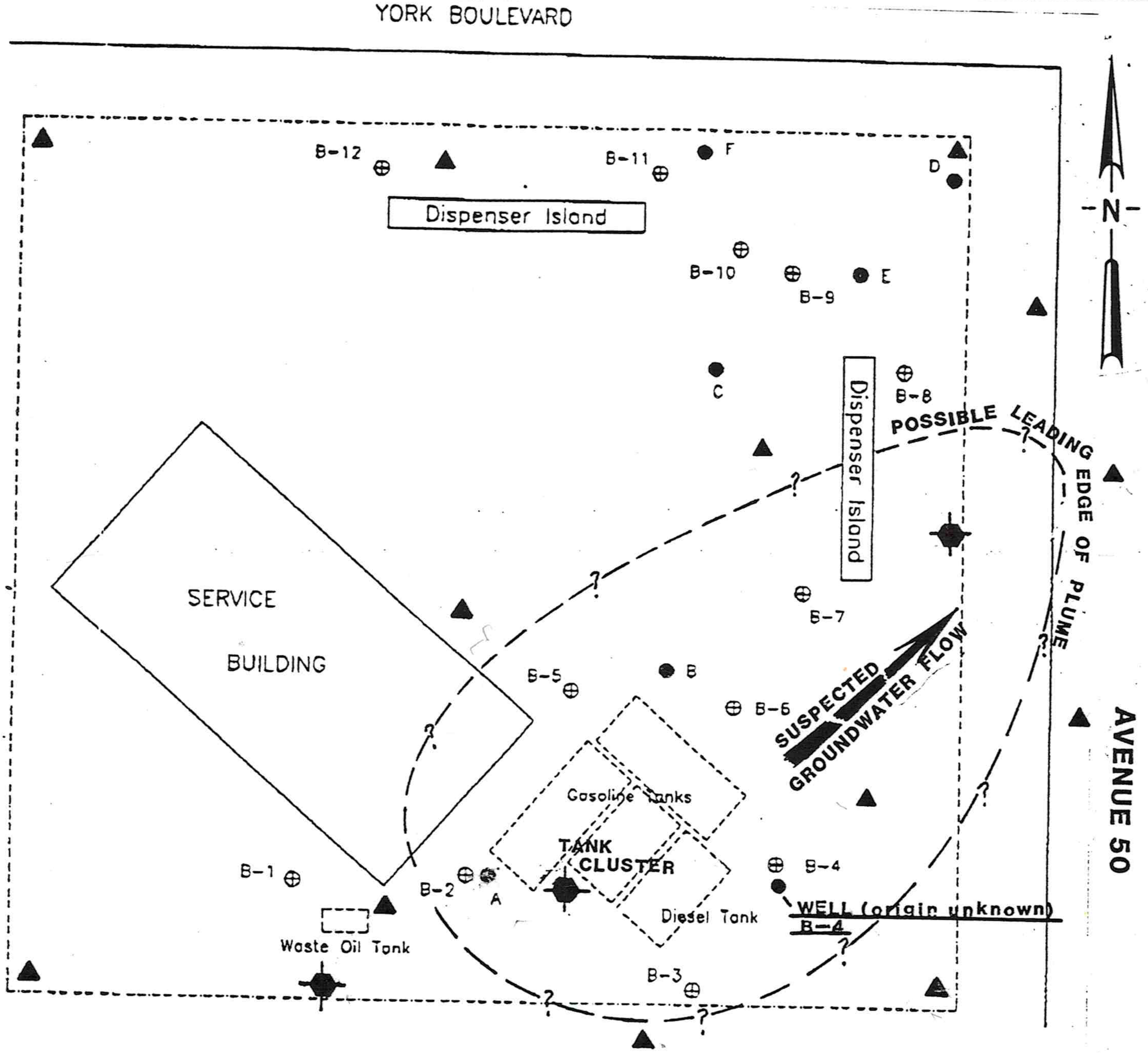
JN: 0960034.01



INDEX MAP
OF
TARGET STATION 940
4945 York Blvd., Highland Park
City of Los Angeles, Los Angeles Co.,
California

Base Map: USGS 71/2' Quad.,Los Angeles - 1972

FIGURE 1



PROPOSED BORINGS & WELLS – 1997

- ● PROPOSED 4"PVC MONITORING WELL
- ▲ PROPOSED GEOPROBE/HYDROPUNCH BORES

EXPLANATION

B-1⊕	Boring number and location (1992)
A ●	Existing well PRIOR TO 1992

SCALE: 1" = 20'

SITE PLAN

TARGET STATION 940

MODIFIED FROM: WEIDMAN 1992

PROJ. REF. NO.. 92-17

FIGURE 2

PROPOSED BORING & WELL LOCATION MAP

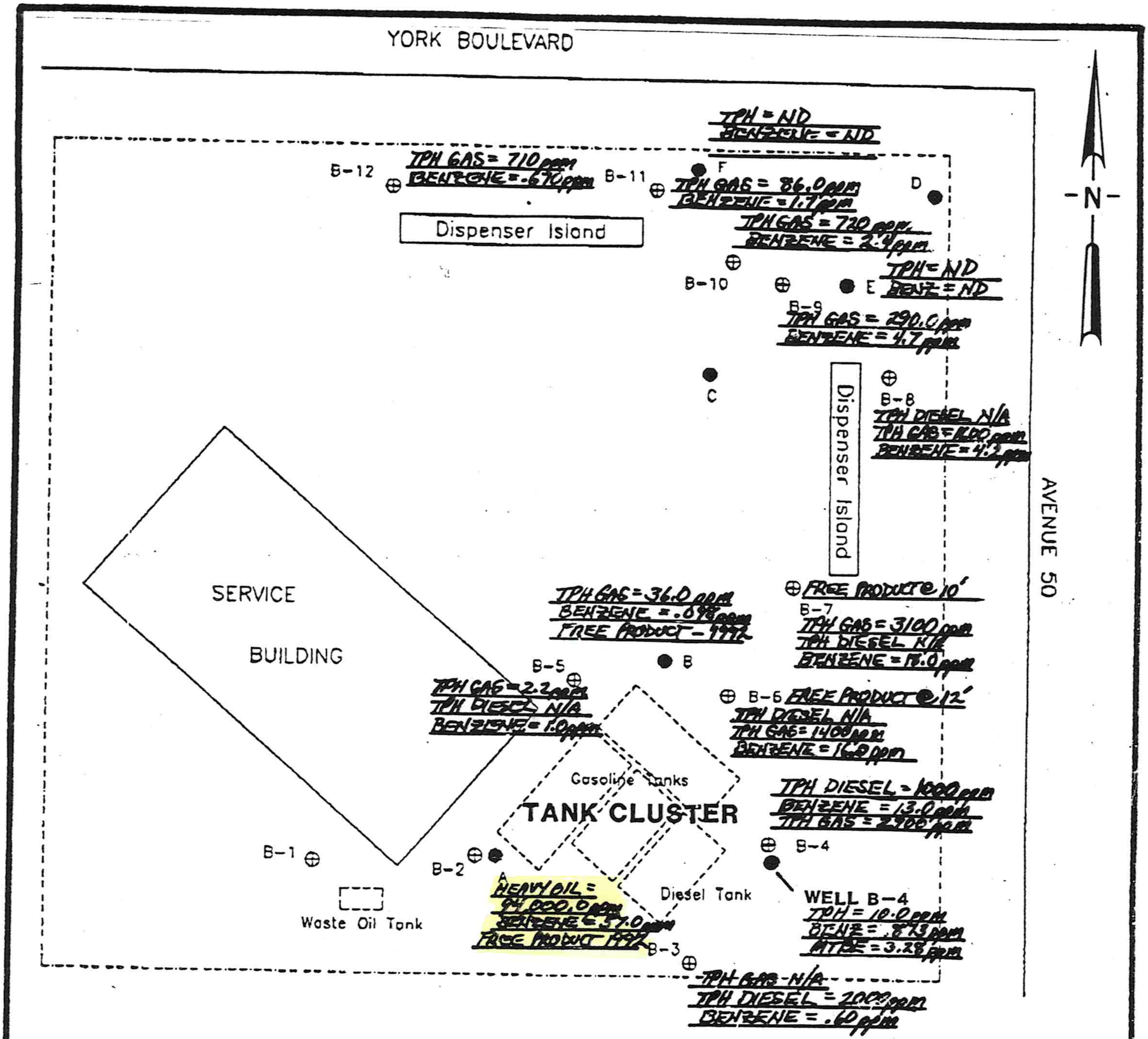
YORK BLVD., HIGHLAND PARK

DATE: 01/10/97

SCALE: ABOVE

JN:

FIGURE: 2



NEW TEST DATA
GW MONITORING WELLS — 1996

OLD TEST DATA
BORINGS — 1992

EXPLANATION

B-1 ⊕	Boring number and location
A ●	Existing well

SCALE: 1" = 20'

SITE PLAN

TARGET STATION 940

MODIFIED FROM : WIEDMAN 1992

PROJ. REF. NO.. 92-17

FIGURE 2

ANALYTICAL TEST RESULTS
PLOT MAP

YORK BLVD., HIGHLAND PARK

DATE: 01/10/97

SCALE: ABOVE

JN:

FIGURE: 3

Petroleum Hydrocarbon Groundwater Contamination -

The six on-site 4" PVC groundwater monitoring wells were reportedly installed prior to the referenced report, for vapor extraction purposes (wells # A,B,C,D,E, & F) (Weidner 1992 report). Well B-4 (4" PVC well located adjacent to Weidner 1992 boring B-4) was apparently installed after the Weidner 1992 work. Our field observations indicated that groundwater is present in the wells approximately -7.0' to -9.0' below grade (see Table II, below). Wells C & D appear to be manifolded together. Well B shows shallow groundwater measured at -3.08' below grade. Well A appeared to have been contaminated by heavy used motor oil poured down the existing well casing. Heavy oil was observed on the inside surfaces of the casing on well A.

Groundwater elevation and free product measurement made in 1992 (Weidner report) are presented in Table I, and in Appendix B, Randall S. Weidner, CEG, - Preliminary Site Assessment. This limited groundwater information is used in our evaluation of the present groundwater condition.

TABLE I
EXISTING WELL DESCRIPTION (FROM WEIDNER 1992)

WELL No.	TOTAL DEPTH (ft.)	DEPTH TO GROUNDWATER (ft.)	PRODUCT THICKNESS
A	12.5	7.8	0.67
B	14.0	7.2	1.17
C	20.0	7.8	0.0
D	21.4	8.4	0.0
E	20.4	8.1	0.0
F	20.1	6.8	0.0

Hydrocarbon was detected in wells # A, B, and well B-4. Product thickness was not measured at the time of groundwater sampling, and should be performed during a recommended second phase of groundwater evaluation (see Conclusions & Recommendations). In well A an oil sludge was also detected, and sampled in the well. The presence of oil sludge in the well obscures the actual hydrocarbon content of the well either as free or as dissolved hydrocarbon product. The heavy oil dumped into the well more than likely has contaminated the formation immediately around the well proper. Therefore, the oil corrupted well must be considered an invalid well, and the groundwater sample collected should be used only for determination of the heavy hydrocarbon levels at the well location. The sample is not representative of the overall hydrocarbon fuel plume distribution or concentration. Another groundwater monitoring some feet away from this well (well #A) will be required to establish plume conditions to the southwest of the tank cluster (near well #A).

Considering the results of the 1992 soil borings and groundwater measurements, and the results of our present field work, it appears that the a hydrocarbon product contaminant plume is present at the tank cluster site, and extending at least 40 feet to the north northeast of the tank cluster. A dissolved product plume is expected to extend farther to the north or northeast, however, our sample from well # E did not show detectable hydrocarbons in the groundwater at that location. The actual lateral (horizontal) limits of the free product plume and associated dissolved product plume are not known at this time, and will require further evaluation.(see Conclusions & Recommendations).

TABLE II EXISTING WELL DESCRIPTION - December 16, 1996			
WELL No.	TOTAL DEPTH (ft.)	DEPTH TO GROUNDWATER (ft.)	PRODUCT THICKNESS
A	12.6	7.9	-----------
B	13.9	3.0	-----------
C	------------	-------------	-----------
D	------------	--------------	-----------
E	21.0	7.9	-----------
F	20.8	6.25	-----------
B-4	20.7	9.3	-----------

Laboratory Findings -

Groundwater samples were collected from wells A, B, E, F, & well B-4 in December 1996. Groundwater samples were analyzed for total recoverable petroleum hydrocarbons (TRPH well A), and standard hydrocarbon analysis consisting of BTEX, MTBE, and TVPH (EPA 8020, EPA 8015). Significant hydrocarbons were detected in wells # A, & B, and in well B-4. Traces of MTBE (31+-mg/L) were detected in wells # A & B, while significant MTBE (3280 ug/L) was detected in sample HP-B-4. The results of these sample analyses are presented in Table III below, and in Appendix A, Laboratory Reports.

TABLE III GROUNDWATER/PRODUCT SAMPLE ANALYSIS DECEMBER 1996								
SAMPLE No.	TRPH mg/kg	OIL C-20 C-40 mg/kg	TVPH C-4 C-10 mg/L	BENZEN 1 ug/L	TOLUEN 150 ug/L	ETHYLB 700 ug/L	1,750 TOTAL XYLENE ug/L	MTBE ug/L
#A	94,000.0	60,000.0	3,960.0	57,000.0	66,000.0	71,000.0	385,000.0	31,000.0
#A 2nd.	-------	60,000.0	3,960.0	57,000.0	66,000.0	71,000.0	385,000.0	31,000.0
#B	-------	-------	36.0	98.0	83.0	785.0	5,110.0	ND
#E	-------	-------	ND	ND	ND	ND	ND	ND
#F	-------	-------	ND	ND	ND	ND	ND	ND
B-4	-------	-------	10,000.0	873.0	2.0	37.0	25.0	3280.0

TRPH = TOTAL RECOVERABLE PETROLEUM HYDROCARBONS
BENZENE = BENZENE
ETHYLB = ETHYLBENZENE
MTBE = METHYLTRIBUTYLETHYER

TVPH = TOTAL VOLATILE PETROLEUM HYDROCARBONS
TOLUEN = TOLUENE
XYLENE = XYLENES

Conclusions and Recommendations -

Conclusions -

- Information presented in the referenced report (Weidner report) indicated that there is significant petroleum hydrocarbon contamination present in both the vadose (unsaturated) zone, and in the groundwater (saturated) zone as dissolved hydrocarbon product. In addition to this the report indicates that in both well #A and well #B free hydrocarbon fuel product is present in significant quantities (up to 1.17 ft. in thickness). Interpretation of the boring log data and the information presented in the text of the report indicates that the groundwater gradient and flow direction is to the north, and/or northwest, and that a hydrocarbon plume is present at least 40 ft. north northeast of the apparent point source (UST cluster). The vertical and horizontal limits of the detected vadose and groundwater hydrocarbon plumes have not been properly defined by the referenced work. An up gradient well has apparently not been constructed.

- Groundwater was encountered at approximately -7.0 to -8.0 feet below grade in the existing groundwater wells measured in 1992. Groundwater was reportedly encountered in the exploratory borings in 1992 at an average depth of -20.0 ft. below grade. The apparent discrepancy between the initial depth of groundwater in the borings (-20.0 ft.), and the depth observed in the existing wells (-7.0 to -8.0 ft.), indicates a probable simiconfined to confined groundwater condition exists below the -10 ft. elevation where there is a reported soil type change. The simiconfined to confined condition may exist at the -20.0 ft. depth where a second alluvial soil change may also exist. Groundwater is apparently contained below the clayey sand soil logged in the upper 10.0 ft. to 20.0 ft. of surficial soils. Additional hydrogeologic investigation work is required to better define groundwater, contaminant, and geologic conditions at the subject site.

- Groundwater was measured at between -7.0' & -9.0' below grade in the wells sampled in December 1996. Well B contained an anomalous high groundwater surface @ -3.08' below grade.

- Based on the findings of our evaluation thus far the existing hydrocarbon free product groundwater contaminant plume appears to be confined to the subject property. Weidner boring B-7 detected free product @ -10.0 ft. below grade in 1992. Existing wells # C and # E were reported to be free of visible product in 1992. Well # E was tested in December 1996 and found to be free of laboratory detectable hydrocarbon (EPA 8015). Considering that B-7 (1992) contained product, but that well #E (1996) was free of product, it is possible that the detected free product and/or dissolved product plume could extend off the subject property to the east northeast, toward Avenue 50.

- Soil sample analyses for borings B-8, B-9, B-10, B-11, & B-12 (Weidner, 1992) all detected significant petroleum hydrocarbon contaminants in the soil sampled. B-8 detected 1600 mg/kg TPH (EPA 8015) @ -12.0 ft. beneath grade, and did not test below that depth. B-10 detected 98.0 mg/kg TPH, and B-11 detected 86.0 mg/kg both @ -12.0 ft. below grade. Soil below that depth was not tested. If the detected hydrocarbon has migrated to first groundwater (first groundwater aquifer), then there may be a secondary groundwater hydrocarbon contaminant plume originating at or near the northern pump island (adjacent to York Blvd.), and possibly extending to the northeast. A free product and/or a dissolved product plume may be present. Groundwater at the site is measured in existing wells @ -7.0 ft. to -8.0 ft. This will require confirmation by groundwater sampling at or near the northern dispenser island. The high concentrations of hydrocarbon contaminants in the soil at B-8 may also indicate a potential groundwater hydrocarbon contaminant plume originating at or near the east pump island, near B-8 adjacent to Avenue 50. If this plume is present, it may have joined with the detected groundwater hydrocarbon plume originating from the UST cluster. Additional hydrogeologic investigation work is required to better define groundwater, contaminant, and geologic conditions at the subject site.

Recommendations -

- Considering the results of our evaluation we recommend the definition of the vertical and lateral limits of the existing vadose zone hydrocarbon contaminant plumes, and the definition of the lateral and vertical (thickness of dissolved product plume in groundwater column) of the detected groundwater contaminant plume, and any additional plumes that may be detected in the course of further investigation. In order to accomplish definition of the known contaminant plumes we recommend the drilling, sampling, and logging of 12 to 14 GeoProbe/Hydropunch borings. Both soil and groundwater samples should be taken in each GeoProbe boring. Soil samples should be taken every five feet beginning at -5.0 ft. below grade, and continuing to groundwater. Groundwater samples should be taken within the upper one foot of the saturated zone. The capillary fringe should be sampled if possible. The locations of the proposed GeoProbe/Hydropunch borings should be presented in the continued Phase II work plan.

- Soil and groundwater samples should be analyzed for basic hydrocarbon contaminants (including diesel). Recommended analytical testing (at a State Certified Hazardous Waste Testing Laboratory) should include EPA 8015M gasoline/8015M diesel, EPA 8020M - BTEX; EPA 8020M - MTBE; EPA 418.1, EPA 7420.

- The presence of illegally disposed of waste oil in well #A renders that well, and the formation immediately around the well unrepresentative of true fuel hydrocarbon conditions at that location. Samples collected from the well are unusable as valid data points in our present groundwater evaluation, or future studies. Considering this we recommend the removal and proper destruction of well #A, and the construction of a replacement 4" PVC monitoring well to be located 10.0+- ft. east, adjacent to the southeast face of the two 5000 gallon tank(s). The destruction of well #A should be completed after pumping as much as possible of the heavy waste oil contaminants from the well, and by a C-57 licensed driller. A well destruction permit from County Environmental Health, and a well destruction plan will also be required (may be part of work plan). Construction of a replacement well should be described in detail in the continued Phase II work plan.

- A surveyed plat map should be constructed for the subject site locating all existing groundwater monitoring wells, GeoProbe/Hydroprobe borings, corners of the property, pump islands and station building corners, and tank cluster corners. The map should be constructed at a convenient scale, usually plotted on a 24" x 36" sheet. Survey work should be completed by a licensed land surveyor.

- A continued Phase II Site Assessment Work Plan (Remedial Action Plan) should be prepared presenting the proposed additional investigation work for the subject site. The work plan should include proposed monitoring well abandonment, proposed replacement monitoring well construction design, proposed GeoProbe/Hydropunch boring locations, and proposed monitoring well(s) location. A separate monitoring well abandonment plan should be submitted to the reviewing agency (County) if well abandonment is to proceed additional work. The Work Plan should conform to the LA Co. Department Public Works Guidelines for Report Submittal guidelines.

- A Health & Safety Plan for investigation of hydrocarbon contaminated sites should be completed for the subject site prior to start up of work. The H & S plan should be submitted with the work plan to the reviewing agency (County).

LIMITATIONS STATEMENT -

The work completed in this Limited Groundwater Evaluation has been performed by Soil Pacific, Inc., and licensed or certified subcontractors to Soil Pacific, Inc. The work has been performed in accordance with the professional practices and standards currently accepted in the Environmental Consulting Industry at the time our work was completed. No other warranty is either expressed or implied.

This report is issued with the understanding that it is the responsibility of the property owner, or his representative(s), to ensure that the information and recommendations contained herein are brought to the attention of the regulatory agency(s), as required by law.

It should be noted that the findings presented in this report are valid at this time, and that changes in the geoenvironmental conditions at, or around, the subject property can occur with the passage of time. In addition, changes in the currently acceptable geoenvironmental consulting standards and/or technology may occur as a result of new developments, or legislation. This may have an effect on the acceptability of the results of this study in the future, which are acceptable by the regulatory agencies today.

Should you have any questions concerning this report please do not hesitate to call us at our office.

SINCERELY YOURS;
SOIL PACIFIC, INC.;

DR. YONES KABIR
No. 02290
Expires: 6-30-97
STATE OF CALIFORNIA

Dr. Yones Kabir, Principal Geologist
Registered Environmental Assessor #02290

Jonathan L. Rossi, Consulting Hydrogeologist
Certified Engineering Geologist #1460

JONATHAN L. ROSSI
No. 1460
STATE OF CALIFORNIA

REFERENCES

California Division of Mines & Geology, 1962 - Geologic Map of California, Olaf P. Jenkins Edition, 1: 250,000 Long Beach Sheet; Charles W. Jennings.

-----, 1967; `Early Pliocene Sedimentary History of the Los Angeles Basin, California; B. L. Conrey; CDMG Special Report 93.

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Department of Water Resources, 1980 - Ground Water Basins in California; Bulletin 118-80, January 1980.

----- 1961 - `Planned Utilization of the Groundwater Basins of the Costal Plain of Los Angeles County'; Appendix A - Groundwater Geology; DWR Bulletin No. 104, June 1961.

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Subsurface Migration of Hazardous Wastes, 1990 - J.S. Devinny, Ph.D., L.G. Everett, Ph.D., J.C.S.Lu, Ph.D., R.L. Stollar; Van Nostrand Reinhold, New York.

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Groundwater, 1979; R.A. Freeze & J.A. Cherry; Prentice-Hall, Inc., Englewood Cliffs, New Jersey, 07632

Appendix A

Enviro - Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

Date: December 23, 1996

Dr. Yones Kabir
Soil Pacific Inc.
675 N. Eckhoff Ave., #A
Orange, CA 92668
Tel(714)879-1203 Fax(714)879-4812

Dear Dr. Kabir:

The analytical results for the five (5) samples (Project: York Blvd. Shell), received by our Lab on December 18, 1996, are attached.

Enviro-Chem appreciates the opportunity to provide you and your company this and other services. Please do not hesitate to call Mr. Mr. Timothy Cleary or Mr. John Ackerman, our Customer Service Specialists, or myself, if you have any questions.

Sincerely,

Steven Chen, Ph.D.
Lab Director

Hon Su
Program Manager

Timothy Cleary
Program Manager

Enviro - Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: SOIL PACIFIC INC., 675 N. ECKHOFF AVENUE, #A
ORANGE, CA 92668 TEL(714)879-1203 FAX(714)879-4812

PROJECT: YORK BLVD. SHELL

SAMPLING DATE: 12/16/96
MATRIX: SLUDGE
REPORT TO: Dr. YONES KABIR

DATE SAMPLE(S) REC'D: 12/18/96
DATE ANALYZED: 12/19-23/96
DATE REPORTED: 12/23/96

SAMPLE I.D.: SAMPLE #A

LAB I.D.: 961219-1

PARAMETER	SAMPLE RESULT, MG/KG	D.L.(X100)	METHOD
TRPH	94,000	10	418.1
HEAVY OIL CONTENT (C20-C40)	60,000	100	LUFT/8015M (BY GC/MS)
TPH as GASOLINE (C4-C10)	3,960	0.1	5030/8015M
BENZENE	57	0.005	5030/8020
TOLUENE	66	0.005	5030/8020
ETHYLBENZENE	71	0.005	5030/8020
TOTAL XYLENES	385	0.01	5030/8020
MTBE	31	0.025	5030/8020

COMMENTS

MG/KG = PPM
D.L. = DETECTION LIMIT
ND = BELOW THE DETECTION LIMIT OR NON-DETECTED
TPH = TOTAL PETROLEUM HYDROCARBONS
TRPH = TOTAL RECOVERABLE PETROLEUM HYDROCARBONS

DATA REVIEWED AND APPROVED BY:

CAL-DHS ELAP CERTIFICATE No.: 1555

Enviro - Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766   Tel (909) 590-5905   Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: SOIL PACIFIC INC., 675 N. ECKHOFF AVENUE, #A
ORANGE, CA 92668   TEL(714)879-1203   FAX(714)879-4812

PROJECT: YORK BLVD. SHELL

SAMPLING DATE: 12/16/96
MATRIX: WATER
REPORT TO: Dr. YONES KABIR

DATE SAMPLE(S) REC'D: 12/18/96
DATE ANALYZED: 12/19-23/96
DATE REPORTED: 12/23/96

SAMPLE I.D.: SAMPLE #B
LAB I.D.: 961219-2

PARAMETER	SAMPLE RESULT, uG/L	D.L.(X50)	METHOD
TPH as GASOLINE (C4-C10)	36,000	50	5030/8015M
BENZENE	98	1	5030/8020
TOLUENE	83	1	5030/8020
ETHYLBENZENE	785	1	5030/8020
TOTAL XYLENES	5,110	2	5030/8020
MTBE	ND	5	5030/8020

COMMENTS

uG/L = PPB
D.L. = DETECTION LIMIT
ND = BELOW THE DETECTION LIMIT OR NON-DETECTED
TPH = TOTAL PETROLEUM HYDROCARBONS

DATA REVIEWED AND APPROVED BY: ____________________

CAL-DHS ELAP CERTIFICATE No.: 1555

Enviro - Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: SOIL PACIFIC INC., 675 N. ECKHOFF AVENUE, #A
ORANGE, CA 92668 TEL(714)879-1203 FAX(714)879-4812

PROJECT: YORK BLVD. SHELL

SAMPLING DATE: 12/16/96
MATRIX: WATER
REPORT TO: Dr. YONES KABIR

DATE SAMPLE(S) REC'D: 12/18/96
DATE ANALYZED: 12/19-23/96
DATE REPORTED: 12/23/96

SAMPLE I.D.: SAMPLE #B-4

LAB I.D.: 961219-5

PARAMETER	SAMPLE RESULT, uG/L	D.L.(X1)	METHOD
TPH as GASOLINE (C4-C10)	10,000	50	5030/8015M
BENZENE	873	1	5030/8020
TOLUENE	2	1	5030/8020
ETHYLBENZENE	37	1	5030/8020
TOTAL XYLENES	25	2	5030/8020
MTBE	3,280	5	5030/8020

COMMENTS

uG/L = PPB
D.L. = DETECTION LIMIT
ND = BELOW THE DETECTION LIMIT OR NON-DETECTED
TPH = TOTAL PETROLEUM HYDROCARBONS

DATA REVIEWED AND APPROVED BY: ______________

CAL-DHS ELAP CERTIFICATE No.: 1555

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LABORATORY REPORT

CUSTOMER: SOIL PACIFIC INC., 675 N. ECKHOFF AVENUE, #A
ORANGE, CA 92668 TEL(714)879-1203 FAX(714)879-4812

PROJECT: YORK BLVD. SHELL

SAMPLING DATE: 12/16/96
MATRIX: WATER
REPORT TO: Dr. YONES KABIR

DATE SAMPLE(S) REC'D: 12/18/96
DATE ANALYZED: 12/19-23/96
DATE REPORTED: 12/23/96

SAMPLE I.D.: SAMPLE #E

LAB I.D.: 961219-3

PARAMETER	SAMPLE RESULT, uG/L	D.L.(X1)	METHOD
TPH as GASOLINE (C4-C10)	ND	50	5030/8015M
BENZENE	ND	1	5030/8020
TOLUENE	ND	1	5030/8020
ETHYLBENZENE	ND	1	5030/8020
TOTAL XYLENES	ND	2	5030/8020
MTBE	ND	5	5030/8020

COMMENTS

uG/L = PPB
D.L. = DETECTION LIMIT
ND = BELOW THE DETECTION LIMIT OR NON-DETECTED
TPH = TOTAL PETROLEUM HYDROCARBONS

DATA REVIEWED AND APPROVED BY: ____________

CAL-DHS ELAP CERTIFICATE No.: 1555

Enviro - Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: SOIL PACIFIC INC., 675 N. ECKHOFF AVENUE, #A
ORANGE, CA 92668 TEL(714)879-1203 FAX(714)879-4812

PROJECT: YORK BLVD. SHELL

SAMPLING DATE: 12/16/96
MATRIX: WATER
REPORT TO: Dr. YONES KABIR

DATE SAMPLE(S) REC'D: 12/18/96
DATE ANALYZED: 12/19-23/96
DATE REPORTED: 12/23/96

SAMPLE I.D.: SAMPLE #F

LAB I.D.: 961219-4

PARAMETER	SAMPLE RESULT, uG/L	D.L.(X1)	METHOD
TPH as GASOLINE (C4-C10)	ND	50	5030/8015M
BENZENE	ND	1	5030/8020
TOLUENE	ND	1	5030/8020
ETHYLBENZENE	ND	1	5030/8020
TOTAL XYLENES	ND	2	5030/8020
MTBE	ND	5	5030/8020

COMMENTS

uG/L = PPB
D.L. = DETECTION LIMIT
ND = BELOW THE DETECTION LIMIT OR NON-DETECTED
TPH = TOTAL PETROLEUM HYDROCARBONS

DATA REVIEWED AND APPROVED BY: ____________

CAL-DHS ELAP CERTIFICATE No.: 1555

**ENVIRO-CHEM, INC.
LABORATORIES**
1214 E. Lexington Ave.
Pomona, CA 91766
(909) 590-5905 • Fax: (909) 590-5907

CHAIN of CUSTODY RECORD

Lab Project # ________

CA-DHS ELAP CERTIFICATE # 1555

DATE: 12/16/96
PAGE: 1 of 1

DR. KABIR -
SOIL PACIFIC
714 879-1203

REPORT TO: SOIL PACIFIC
STREET: 675 N. ECKOFF ST. #A
CITY: ORANGE STATE: CA ZIP: 92668
TEL: (714) 879-1203 FAX: (714) 879-4812
SHIPPING INFORMATION:

PROJECT NAME: YORK BLVD. SHELL
PROJECT CONTACT: DR. KABIR
SAMPLER(S) SIGNATURE: DR. Y. KABIR

TURN AROUND TIME DESIRED
☐ Same Day ☐ 24 Hour ☐ 48 Hour
☐ 72 Hour ☐ 1 Week ☒ Standard (2 Weeks)
☐ Others: ________
Confirmed
By: ________

AFTER ANALYSES, SAMPLES ARE TO BE: ☐ DISPOSED OF ☐ STORED (30 days) ☐ RETURNED TO CLIENT ☐ OTHER:

RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE: 12/18/96	TIME: 1PM
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature) Jessica Lin	DATE: 12/18/96	TIME: 3 1/2 PM
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE:	TIME:

SAMPLE I.D.	LAB I.D.	SAMPLING DATE/TIME	MATRIX	№ of Containers	ANALYSIS REQUESTED	SAMPLE RECEIVED CONDITION	Sample Stored Location
SAMPLE #A		12/16/96 12 NOON	WATER	1	8015M GAS 8020 BTEX 418.1 HEAVY OIL IN WELL ← JUST THIS SAMPLE		
" #B			"	1	8015 GAS 8020		
" #E			"	1	" "		
" #F		↓	"	1	" "		
" #B-4		2PM	"	1	" "		

The above analysis approved/agreed by:

Dr. Yones Kabir :

Date: Dec. 18.96

DISTRIBUTION: WHITE WITH REPORT • YELLOW TO COURIER